

## UNCLASSIFIED

PE NUMBER: 0604240F

PE TITLE: B-2 Advanced Technology Bomber

## Exhibit R-2, RDT&amp;E Budget Item Justification

DATE

February 2004

## BUDGET ACTIVITY

## 05 System Development and Demonstration (SDD)

## PE NUMBER AND TITLE

0604240F B-2 Advanced Technology Bomber

Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	232.151	165.920	245.049	290.152	131.038	117.714	144.431	Continuing	TBD
3843 B-2 Advanced Technology Bomber	232.151	165.920	245.049	290.152	131.038	117.714	144.431	Continuing	TBD

(U) **A. Mission Description and Budget Item Justification**

The B-2A Spirit is the world's most advanced long-range strike asset. The unique combination of range, payload and stealth characteristics allow the B-2 to target and destroy the highest value enemy targets, regardless of location, and return home. The array of RDT&E planned projects are necessary to both preserve this strategic advantage as well as to increase the flexibility and lethality of this "capital" asset. The Radar Modernization Program and the Aft Deck Crack Program both address and correct potential fleet grounding issues. The B-2 Radar will not be able to legally operate in the near future--the operating frequency must be changed. Aft Deck cracks must be contained now in order to preserve the key stealth characteristics that are so vital to the survivability of the B-2. Avionics and Armament upgrades are key to enhancing the flexibility and lethality of the B-2. The Link-16/Center Instrument Display (CID)/In-Flight Replanner (IFR) upgrade allows the B-2 access to the theater tactical data link, improving on-board situational awareness while greatly enhancing the ability of the Theater Commander to force package the B-2 with other assets. The Extremely High Frequency (EHF) communication upgrade will first and foremost preserve the critical ability to guarantee communication through a nuclear event while also providing a dramatic increase in the data flow into and out of the B-2. Integration of new and/or advanced weapons allows the B-2 to destroy a wider array of target sets as well as destroy more targets per sortie. Engine, structure and Low Observable (LO) programs are designed to ease pilot and maintainer workload while preserving/enhancing the combat edge the B-2 fleet affords this nation. Continued baseline B-2 support is essential to the execution of all the RDT&E efforts discussed above. The baseline B-2 support ensures the continued support of the B-2 flight test aircraft, maintains the B-2 unique flight test infrastructure, ensures the Mission Planning system configuration keeps pace with aircraft system updates, provides a strategic planning capability for the B-2, and provides for other B-2 unique government costs.

(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	259.722	176.775	239.609
(U) Current PBR/President's Budget	232.151	165.920	245.049
(U) Total Adjustments	-27.571	-10.855	
(U) Congressional Program Reductions		-24.691	
Congressional Rescissions		-1.464	
Congressional Increases		15.300	
Reprogrammings	-19.040		
SBIR/STTR Transfer	-8.531		

(U) **Significant Program Changes:**

FY04: Congressional Plus-up progrms include EHF SatCom (\$12.6M) and Aft Deck Cracks (\$2.7M); \$24.691M RDT&E FY04 Congressional realignment of funds to

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BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>	PE NUMBER AND TITLE <b>0604240F B-2 Advanced Technology Bomber</b>	
<p>correct database error.</p>		

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## Exhibit R-2a, RDT&amp;E Project Justification

DATE

February 2004

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604240F B-2 Advanced Technology Bomber			PROJECT NUMBER AND TITLE 3843 B-2 Advanced Technology Bomber		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
3843 B-2 Advanced Technology Bomber	232.151	165.920	245.049	290.152	131.038	117.714	144.431	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) **A. Mission Description and Budget Item Justification**

The B-2A Spirit is the world's most advanced long-range strike asset. The unique combination of range, payload and stealth characteristics allow the B-2 to target and destroy the highest value enemy targets, regardless of location, and return home. The array of RDT&E planned projects are necessary to both preserve this strategic advantage as well as to increase the flexibility and lethality of this "capital" asset. The Radar Modernization Program and the Aft Deck Crack Program both address and correct potential fleet grounding issues. The B-2 Radar will not be able to legally operate in the near future--the operating frequency must be changed. Aft Deck cracks must be contained now in order to preserve the key stealth characteristics that are so vital to the survivability of the B-2. Avionics and Armament upgrades are key to enhancing the flexibility and lethality of the B-2. The Link-16/Center Instrument Display (CID)/In-Flight Replanner (IFR) upgrade allows the B-2 access to the theater tactical data link, improving on-board situational awareness while greatly enhancing the ability of the Theater Commander to force package the B-2 with other assets. The Extremely High Frequency (EHF) communication upgrade will first and foremost preserve the critical ability to guarantee communication through a nuclear event while also providing a dramatic increase in the data flow into and out of the B-2. Integration of new and/or advanced weapons allows the B-2 to destroy a wider array of target sets as well as destroy more targets per sortie. Engine, structure and Low Observable (LO) programs are designed to ease pilot and maintainer workload while preserving/enhancing the combat edge the B-2 fleet affords this nation. Continued baseline B-2 support is essential to the execution of all the RDT&E efforts discussed above. The baseline B-2 support ensures the continued support of the B-2 flight test aircraft, maintains the B-2 unique flight test infrastructure, ensures the Mission Planning system configuration keeps pace with aircraft system updates, provides a strategic planning capability for the B-2, and provides for other B-2 unique government costs.

(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Continue B-2 baseline support in include developmental flight test aircraft modification and base of operations; Missic Planning support; long range planning, studies, and program integration activities; and other government costs.	32.769	23.027	15.642
(U) Continue development of Link-16/CID/IFR, EGBU-28, UHF SATCOM, JDAM-82/SBRA, and EHF-Satcom program	74.159		
(U) Begin development of Radar Management Program (RMP) Congressional Plus-Up)	94.652		
(U) Begin development of Aft Deck Cracks program	8.998		
(U) Begin development of Digital Engine Control (DEC) program	4.573		
(U) Begin development of Low Observable, airframe, and avionics improvements to include, but not limited to, Congressional Plus-Up programs such as Advanced Hot Trailing Edge (AHTE), Tailpipe Coatings, Alternative Door Edge Treatment (ADET).	17.000		
(U) Continue development of Link-16/CID/IFR, EGBU-28, UHF SATCOM, EHF SATCOM (Congressional plus-up), RM and Aft Deck Cracks (Congressional plus-up) Programs.		30.392	
(U) Continue development of RMP including completing Component Advanced Development (CAD) and initiating Syster		112.501	

Project 3843

R-1 Shopping List - Item No. 68-4 of 68-8

Exhibit R-2a (PE 0604240F)

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## Exhibit R-2a, RDT&amp;E Project Justification

DATE

February 2004

## BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

## PE NUMBER AND TITLE

0604240F B-2 Advanced Technology  
Bomber

## PROJECT NUMBER AND TITLE

3843 B-2 Advanced Technology  
Bomber

Development and Demonstration (SDD).

(U) Continue development of EGBU-28, EHF SatCom, and LO Maintainability programs to include ADET.	48.574
(U) continue development of RMP including design and fabrication of new and modified componets for test aircraft and si operational demonstration units.	180.833
(U) Total Cost	232.151      165.920      245.049

(U) **C. Other Program Funding Summary (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) A/C Proc, AF, Combat A/C/BA07/B-2A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(U) A/C Proc, AF, Post Prod Support/BA07	2.355	6.919	6.801	7.169	7.418	0.000	0.000	0.000	TBD
(U) A/C Proc, AF, Modifications/BA05/B-2A	91.690	122.340	96.002	52.215	206.817	283.653	69.523	Continuing	TBD
(U) A/C Prod, AF, ICS	33.271	31.271	30.683	21.703	11.290	8.539	9.249	Continuing	TBD
(U) A/C Proc, AF, Cmn Spt Eq/BA07/Items<\$2M	0.426	2.023	0.000	0.000	0.000	0.000	0.000	0.000	TBD
(U) A/C Proc, AF, A/C Initial Spares/BA06/B-2A	8.533	3.692	6.757	6.510	2.559	4.002	1.002	0.000	TBD
(U) Proc (Other), AF/BA 02,03, 04/B-2A	7.530	7.493	7.644	7.762	7.944	8.216	8.422	Continuing	TBD
(U) Military Construction/BA01	34.426	0.000	0.000	0.000	0.000	0.000	0.000	0.000	TBD

(U) **D. Acquisition Strategy**

Key elements of the overall acquisition strategy include: use of sole source contract with a prime/integrating contractor (Northrop Grumman); use of cost plus award fee (CPAF) development contracts; and combining developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime and differences in fielded configurations

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## Exhibit R-3, RDT&amp;E Project Cost Analysis

DATE

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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
<b>05 System Development and Demonstration (SDD)</b>				<b>0604240F B-2 Advanced Technology Bomber</b>				<b>3843 B-2 Advanced Technology Bomber</b>				
(U) <u>Cost Categories</u>	<u>Contract Method</u>	<u>Performing Activity &amp;</u>	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	<u>Total</u>	<u>Target</u>
(Tailor to WBS, or System/Item Requirements)	<u>&amp; Type</u>	<u>Location</u>	<u>Prior to FY</u>	<u>2003</u>	<u>2003</u>	<u>2004</u>	<u>2004</u>	<u>2005</u>	<u>2005</u>	<u>Complete</u>	<u>Cost</u>	<u>Value of</u>
(\$ in Millions)			<u>2003</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>			<u>Contract</u>
			<u>Cost</u>		<u>Date</u>		<u>Date</u>		<u>Date</u>			
(U) <u>Product Development</u>												
Air Vehicle - NG	Multiple		21,288.933	183.060		122.220		212.810		Continuing	TBD	
Aircrew Training	CPIF		561.345	0.394		0.300		5.400			567.439	
Mission Planning	Multiple		332.337	12.619		11.247		2.145		Continuing	TBD	
Engines G.E.	Multiple		566.500	4.573							571.073	
AARL Boeing			125.934	2.427						0.000	128.361	
Subtotal Product Development			22,875.049	203.073		133.767		220.355		Continuing	TBD	0.000
Remarks:												
(U) <u>Support</u>												
Other Govt Costs	N/A		1,045.960	23.996		23.767		18.477		Continuing	TBD	
Subtotal Support			1,045.960	23.996		23.767		18.477		Continuing	TBD	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u>												
Govt Test	N/A		788.560	5.082		8.386		6.217		Continuing	TBD	
Subtotal Test & Evaluation			788.560	5.082		8.386		6.217		Continuing	TBD	0.000
Remarks:												
(U) <u>Management</u>												
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			24,709.569	232.151		165.920		245.049		Continuing	TBD	0.000

## Exhibit R-4, RDT&amp;E Schedule Profile

DATE

February 2004

BUDGET ACTIVITY

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Bomber

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Bomber

# B-2

## Detailed Schedule

## AIRCRAFT MODS

EGBU-28 EMD

UHF SATCOM

SBRA/JDAM-82 EMD

LINK-16/CID/IFR

RADAR FREQUENCY MODIFICATION

EHF SATCOM

## AIRCRAFT MAINTAINABILITY

AFT DECK

AFT DECK REPAIR KITS

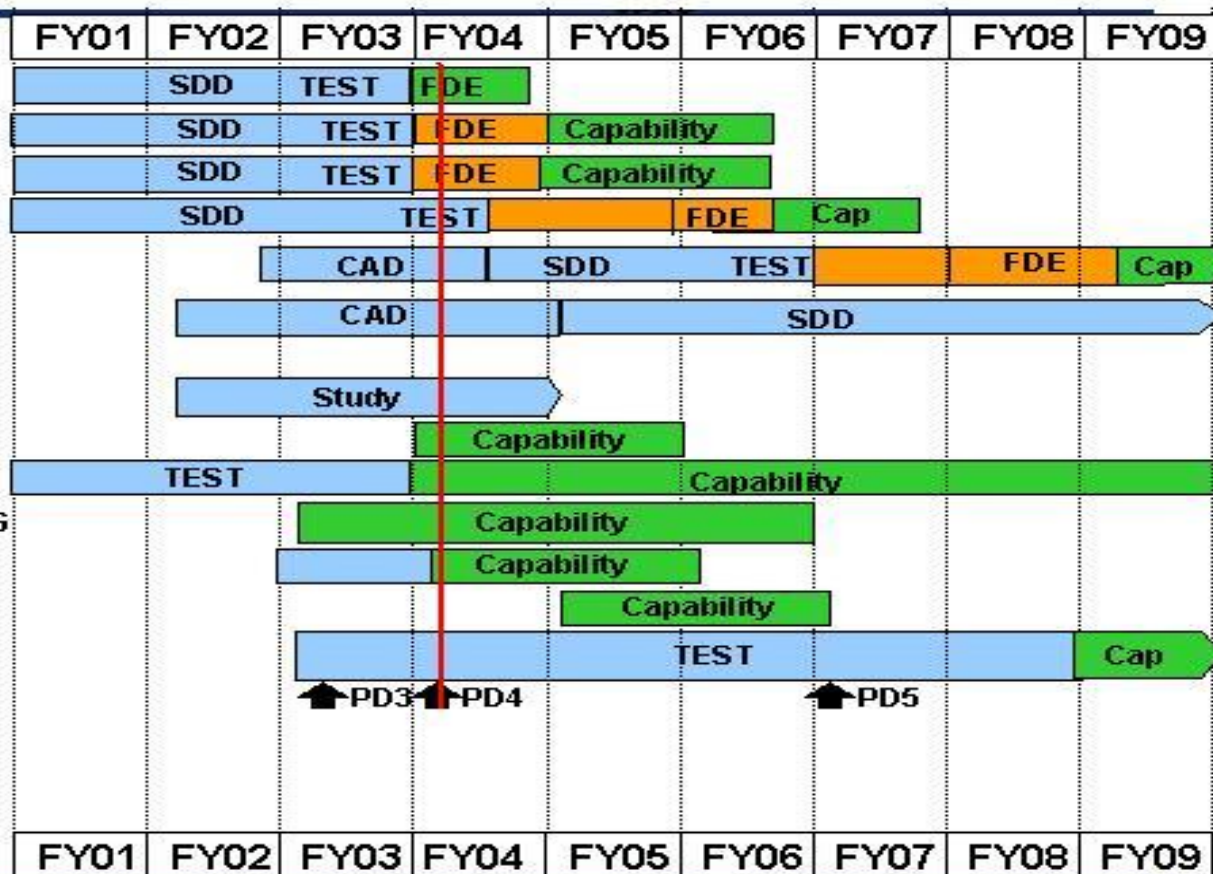
ALTERNATE HIGH FREQ MATERIAL

MAINTENANCE TRAINERS SYSTEM UPG

DIGITAL ENGINE CONTROL

SUPPORTABILITY MODIFICATIONS

ALTERNATE DOOR EDGE TREATMENT



AS OF: Jan 04

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## Exhibit R-4a, RDT&amp;E Schedule Detail

DATE

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PE NUMBER AND TITLE

0604240F B-2 Advanced Technology  
Bomber

PROJECT NUMBER AND TITLE

3843 B-2 Advanced Technology  
Bomber(U) Schedule ProfileFY 2003FY 2004FY 2005

(U) EHF SatCom Contract Award

2Q

(U) Radar Management Mod Dev CAD II Contract Award

3Q

(U) Aft Deck Contract Award

2Q

(U) UHF SatCom Flight Test Complete

4Q

(U) EGBU-28 Flight Test Complete

1Q

(U) JDAM-82/SBRA Flight Test Complete

1Q

(U) Radar Management Mod Dev SDD Contract Award

3Q

(U) Link-16/CID/IFR Flight Test Begins/Completes

3Q

1Q